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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,098	03/26/2004	Eduard Kunschir	12684.9USW1	8190

23552 7590 03/29/2006

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EXAMINER
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BUNIN, ANDREW M

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/810,098	<b>Applicant(s)</b> KUNSCHIR, EDUARD	
	<b>Examiner</b> Andrew M. Bunin	<b>Art Unit</b> 3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 3/16/06.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2-7 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-7 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15 and 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertson et al. (US 5,487,378) in view of Robertson et al. prior art/Ross et al. (US 5152456). Robertson et al. disclose a device for inhalation therapy comprising an oscillatable membrane 50 for nebulising a liquid. A membrane can be defined as a "thin sheet of natural or synthetic material that is permeable to substances in solution" ([www.dictionary.com](http://www.dictionary.com)). Therefore, the nozzle array as shown in Figures 5a and 5b can be considered a membrane. In addition, Robertson et al. states the common use of a membrane in the prior art, "housing comprising a perforate membrane which defines a front wall of the chamber and which has a rear face contacted by liquid in use" (column 2, lines 34-35).

Robertson et al. continues to disclose an oscillation-generating device 84 having at least one connecting means. The connecting means (1)/62 receives an oscillation control signal for oscillating the vibrator element when the oscillation control signal is received such that a liquid 16/220 disposed on one side of the membrane is nebulised through the membrane 50 and is present on the other side of the membrane 50 as an aerosol as shown in Figure 4a.

Robertson et al. states that the prior art teaches an "apparatus further comprising vibrating means connected to the housing and operable to vibrate the perforate membrane to dispense droplets of liquid through the perforate membrane" (column 2, 36-40).

The device of Robertson et al. also disclose a control means 206 from which an oscillation control signal is supplied to the at least one connecting means (1) of the oscillation-generating device 210 so that said oscillation-generating device 210 oscillates a vibrator element. However, Robertson et al. doesn't explicitly teach the oscillation-generating device oscillating the membrane 50. Ross et al. teaches a similar dispensing apparatus with a perforate outlet member and vibrating device. Ross et al. explicitly states how the "vibrating device 8 is connected to the housing and is operable to vibrate the perforate membrane to dispense droplets of liquid through holes 25 in the perforate membrane." (abstract) In addition, Ross et al. disclose the oscillator generating device 6/8 as oscillating the membrane in a frequency range of 3KHz to 1 MHz (column 7, lines 12-19). A human ear can hear sound at a frequency of 20 Hz to 20 KHz. Therefore, Ross et al. device is fully capable of oscillating the

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membrane in an audible frequency range so as to emit an audible signal for a user. Ross et al. further teaches a visual or audible indicator included in the device for providing indication of the elapsed time since last use and warning that the remaining liquid is nearly depleted (column 7, lines 41-49). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the device of Robertson et al. by vibrating a membrane at an audible frequency as taught by Ross et al. in order to efficiently expel many small droplets directly to a user.

In Figure 10, Robertson et al. continues to teach the use of a function block diagram to further illustrate the electronic metered dose aerosol delivery system. Figure 10 includes a control means 162 that supplies a further control signal to the oscillation-generating device 170 causing the vibrator element to oscillate in the audible frequency range so as to emit an audible signal 160 for a user.

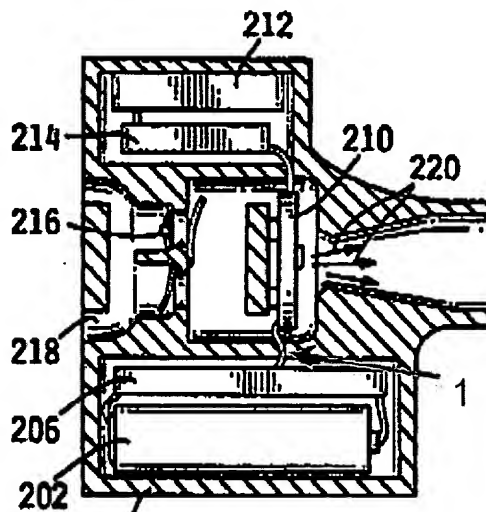


Figure 1: US 5487378

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Robertson et al. also disclose a device for inhalation therapy with a further control signal supplied to the oscillation-generating device 170/210 via the same connecting means as the oscillation control signal 174 as shown in Figure 10 and Figure 1 above.

As for claims 3-5, the oscillation-generating device comprises an electromechanical transducer unit 56 in particular a piezoelectric material. Robertson et al. continues to disclose a support unit 52 to which the electromechanical transducer unit and the membrane 50 are attached. Robertson et al. states, "a piezo-electric transducer is secured to the vibrating member for inducing a rearward displacement...to discharge a small quantity of liquid through the nozzle opening" (column 2, lines 10-13). Robertson et al. disclose a device for inhalation therapy including a generator unit 92 that generates a further control signal, which is supplied to the oscillation-generating device 84, via at least one connecting means as shown in figure 6a.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertson et al. Robertson et al. has discloses the claimed invention except for the generator unit 92 being integrated in the control means 206 and the energy supply means 202 for the inhalation device being integrated in the control means 206. It would have been obvious to one having ordinary skill in the art at the time the invention was made to integrate the generator unit and energy supply means in the control means, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put

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together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 US 164 (1893)

### ***Response to Arguments***

Applicant's arguments, (see page 4, lines 22-23 and page 6, lines 1-24), filed 3/16/06, with respect to the rejection(s) of claim(s) 15 and 2-5 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Robertson et al. prior art and/or Ross et al. (US 5152456).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 5261601 and US 4533082

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M. Bunin whose telephone number is (571)272-4801. The examiner can normally be reached on Monday - Friday, 8 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on (571)272-4791. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



AMB  
3/24/06



Henry Bennett  
Supervisory Patent Examiner  
Group 3700